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A Revised Key to the Species of *Elytroleptus* With Notes on Variation and Geographical Distribution

(Coleoptera : Cerambycidae)

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Since the publication of recent taxonomic treatments of *Elytroleptus* and related lycid-like Cerambycidae (Linsley, 1961a, 1962a, 1962b), a significant amount of previously unstudied material from Mexico has been received which reveals that the type of polychromatism which has been recorded for *Elytroleptus apicalis* LeConte, *E. pallidus* (Thomson), *E. scabricollis* Bates, and *E. dichromaticus* Linsley, is far more widespread than published reports indicate. Since this polychromatism involves various combinations of *Lycus*-like, *Lycostomus*-like, and *Calopteron*-like coloration patterns, these data are of significance not only from the taxonomic viewpoint, but also in connection with studies of lycid mimicry, of which a number are currently underway and others have been published recently (*e.g.*, Linsley, 1961b; Linsley, Eisner, and Klots, 1961; Eisner, Kafatos, and Linsley, 1962; Selander, Miller, and Mathieu, 1963; Emmel, 1965). For the latter reason, especially, we offer a revised key to species which takes this new information into account, together with notes on variation and distribution for certain of the species.

KEY TO THE SPECIES OF ELYTROLEPTUS

1. Elytra gradually dilated from base or from in front of middle, quadricostate toward apex (small individuals of *ignitus* occasionally lack the fourth costa); larger species, 12–17 mm in length 2
Elytra subparallel, at most slightly widened apically, tricostate throughout; smaller species, 7–12 mm in length 7
2(1) Elytra bicolored or concolorous yellow or rufo-testaceous 3
Elytra entirely black; pronotum with surface densely clothed with appressed golden tomentum except for an oval black area on posterior half of disk and another black area on each side behind lateral angle. 13 mm. Mexico (Oaxaca) .... *nigripennis*
3(2) Elytra concolorous yellow or rufo-testaceous or with apices black 4
Elytra with a black antemedian band and apices broadly black with

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a violaceous or bluish cast; pronotum with surface densely clothed with appressed golden tomentum except for median and lateral longitudinal black vittae. 15 mm. Mexico (Mexico and Veracruz) ---- *grandis*

4(3) Elytra concolorous yellow or rufo-testaceous ---- 5

Elytra with apices black; pronotum usually pale or dominantly so, discal longitudinal ridges moderately densely clothed with golden appressed pubescence, center shining, coarsely, confluently punctate. 12–17 mm. Western Texas to southern Arizona and northern Mexico (Chihuahua, Coahuila, Tamaulipas, Zacatecas, Durango) ---- *apicalis*

5(4) Pronotum dominantly yellowish, center usually pale, shining, coarsely confluently punctate ---- 6

Pronotum black except for two longitudinal densely tomentose yellowish or rufous vittae, center subopaque, rather finely, densely, rugosely punctate; elytra yellowish to rufous. 11–15 mm. Southern Arizona to Chiapas, Mexico ---- *rufipennis*

6(5) Elytra with numerous erect hairs over basal half; pronotum with sides densely bristling with long erect hairs; eyes with internal margins densely clothed with erect hairs. 11–13 mm. Southern Arizona and northern Mexico (Chihuahua) ---- *ignitus*

Elytra without erect hairs at base, pubescence uniformly subdepressed; pronotum with sides sparsely clothed with erect hairs; eyes with internal margins lacking long erect hairs. 12–17 mm. Southern Arizona and northern Mexico (Chihuahua, Durango, Coahuila) ---- *apicalis*

7(1) Elytra bicolored or black ---- 8

Elytra concolorous yellow or rufo-testaceous ---- 13

8(7) Pronotal disk with bands of yellow or red, appressed pubescence ---- 9

Pronotal disk subglabrous, pubescence fine, erect, appressed pubescent bands lacking ---- 10

9(8) Pronotum with golden yellow bands; elytra strongly costate, humeri obliquely yellow from lateral margins to suture near scutellum. 8–11 mm. Southeastern Canada to Florida and eastern Texas ---- *floridanus*

Pronotum with red bands; elytra less strongly costate, entirely black or with basal one-fourth reddish yellow extending obliquely backward from sutural margin to sides and along lateral margins to apex (var. *obliquus*). 7–10 mm. Western Texas and northern Mexico (Durango) ---- *immaculipennis*

10(8) Elytra coarsely punctate, no more than three rows of punctures present between costae at basal area ---- 11

Elytra moderately coarsely to finely punctate, four or more rows of punctures present between costae at basal area ---- 12

11(10) Elytra with costae very strongly elevated beyond basal one-fourth, dark pattern occupying apical one-half, directed forward along suture, occasionally transverse but not arching back toward suture. 8–11 mm. Texas and northern Mexico (Tamaulipas, Nuevo Leon) ---- *divisus*

Elytra with costae only moderately elevated beyond basal one-fourth, dark pattern occupying apical one-third, arching back toward suture. 8–10 mm. Mexico (Queretero, Hidalgo) .... *dichromaticus*

12(10) Body densely clothed with long, erect flying hairs; elytra with broad apical dark band arching back toward suture or rarely, transverse. 7–12 mm. Mexico (Sonora, Sinaloa, Nayarit, Jalisco, Queretero, Mexico, Morelos, Puebla, Oaxaca, Veracruz) .... *scabricollis*

Body sparsely clothed with short, subdepressed pubescence; elytra with dark pattern extending obliquely up suture to basal one-fourth. 6–11 mm. Mexico (Chihuahua) .... *humeralis*

13(7) Pronotal disk with bands of yellow or rufous appressed pubescence 14

Pronotal disk subglabrous, pubescence fine, erect, appressed pubescent bands lacking 16

14(13) Elytra finely punctate, many more than four rows of punctures present between costae at basal area 15

Elytra coarsely punctate, only four rows of punctures present between costae at basal area; pronotum with disk very coarsely, confluently punctate. 8–11 mm. Mexico (Puebla, Oaxaca) .... *similis*

15(14) Elytra with a few erect hairs basally, sides not densely bristling with erect hairs; costae moderately strong and broad at base; color yellowish to rufous. 8–13 mm. Mexico (Durango, Aguascalientes, Zacatecas, Hidalgo, Mexico, Distrito Federal, Jalisco, Puebla) .... *pallidus pallidus*

Elytra densely clothed with erect bristling hairs over basal half, becoming sparser toward apex; costae strongly elevated and broad at base; color yellow. 7–11 mm. Mexico (Mexico, Michoacan) .... *pallidus villosus*

16(13) Elytra moderately coarsely to finely punctate, more than three rows of punctures present between costae at basal area 17

Elytra coarsely punctate, only three rows of punctures present between costae at basal area. 8–10 mm. Mexico (Queretero, Hidalgo) .... *dichromaticus*

17(16) Elytra densely clothed with very long, erect bristling hairs, sides slightly broadened behind middle. 7–12 mm. Mexico (Sonora, Sinaloa, Nayarit, Jalisco, Queretero, Mexico, Morelos, Puebla, Oaxaca, Veracruz) .... *scabricollis*

Elytra with short erect hairs moderately dense at base only, sides subparallel, rarely slightly expanded. 7–11 mm. Southern Arizona to western Texas and Mexico (Sonora, Nayarit, Durango, Guanajuato, Mexico) to Honduras .... *luteus*[1]

ELYTROLEPTUS NIGRIPENNIS Bates

This species is still known only from the type from Oaxaca.

ELYTROLEPTUS GRANDIS Linsley

Presently known from the states of Morelos and Mexico.

ELYTROLEPTUS APICALIS (LeConte)

One of the group of species possessing both black tipped and concolorous elytra. Unrecorded localities include: CHIHUAHUA: Chihuahua

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[1] We are unable to separate *E. lineatus* Knull and *E. davisi* Knull (from western Texas) from *E. luteus* Duges on the basis of the original descriptions.

(Wickham); 25 miles west Hidalgo del Parral, 15 July 1964 on flowers of *Clematis pauciflora* and *Mimosa biuncifera* (J. A. Chemsak and J. Powell) (a black-tipped female was taken feeding on a plain lycid, *Lycostomus*); TAMAULIPAS: Llera Mesa, 1,800 feet, 7 June 1961 (U. Kansas Mex. Exped.); COAHUILA: 9 miles west Saltillo, 9 July 1960, on *Solidago* (R. B. Selander and J. M. Mathieu); DURANGO: 5 miles west Durango, 23 June 1964 (H. F. Howden); ZACATECAS: 17 miles north Fresnillo, 16 July 1954 (J. W. MacSwain).

ELYTROLEPTUS RUFIPENNIS (LeConte)

New Mexican material has been seen from the following localities: 30 miles west Tepalcates, Durango, 6 June 1964 (H. F. Howden); Epazoyucan, 8,100 feet, Hidalgo, 17 June 1961 (U. Kansas Mex. Exped.); 7.5 km above Soyalo, Chiapas, 18–19 April 1959 (T. C. Emmel).

ELYTROLEPTUS IGNITUS (LeConte)

Examples of the immaculate form of *E. apicalis* LeConte resemble this species and most records from Mexico are based upon this form (Linsley, 1962; Selander, Miller, and Mathieu, 1963). The principal exception involves specimens from Primavera, Chihuahua, 5,500 feet, July 1947, W. Gertsch, Rockefeller Expedition, American Museum of Natural History, recorded by Linsley (1962).

ELYTROLEPTUS IMMACULIPENNIS Knull

A specimen from 5 miles west Durango, Durango, 23 June 1964 (H. F. Howden) has the elytra totally black and the pronotum possesses the typical reddish pubescent bands.

ELYTROLEPTUS DIVISUS (LeConte)

New records: Huasteca Canyon, near Monterey, Nuevo Leon, 11–13 July 1963, on *Karwinskia humboldtiana* (H. F. and A. T. Howden).

ELYTROLEPTUS DICHROMATICUS Linsley

A male with black-tipped elytral apices is before us from 1 mile northwest of San Juan del Rio, Queretero, 6 July 1964 (C. D. Johnson), suggesting that the dichromatism evident in this species will ultimately be shown to involve both sexes.

ELYTROLEPTUS SCABRICOLLIS Bates

The concolorous form of *E. scabricollis* apparently occurs throughout the range of the species. However, near the southern limits of its distribution (Oaxaca and Puebla), the dominant (or possibly the only form) is concolorous.

New locality records for this species include: SONORA: 2 miles southeast Alamos, 21 July 1960 (R. B. Loomis and J. Maris); Alamos, 30 July to 9 August 1957 (R. L. Westcott); San Bernardino, 15 July 1935; 10 miles east Navajoa, 13 August 1959; SINALOA: 18 miles south Guamuchil, 7 August 1964, on *Croton culicanensis* (J. A. Chemsak and J. Powell); 8 miles south Elota, 2 July 1963 (F. D. Parker, L. A. Stange); 5 miles north Mazatlán, 24 July to 7 August 1964 on *Buddleia wrightii* and *Jatropha curcus* (J. A. Chemsak, J. Powell, H. F. Howden); NAYARIT: 10 miles east Acaponeta, 4 July 1963 (Parker and Stange); JALISCO: 3 miles southeast Plan de Barrancas, 8 July 1963 (Parker and Stange); MEXICO: Bejucos and Tejupilco, Temescaltepec, 4 July 1932 (H. E. Hinton, R. L. Usinger); MORELOS: Yautepec, 13 July 1963 (Parker and Stange); 13 miles south Cuernavaca, 8 July 1962 (D. H. Janzen); PUEBLA: 10 miles southeast Tehuitzingo, 3 July 1963 (U. Kansas Mex. Exped.); 8 miles southeast Tehuitzingo, 29 June 1963 on flowers of *Xanthoxylum* (U. Kansas Mex. Exped.); OAXACA: 56 miles northwest Tehuantepec, 27 July 1963 (J. Doyen); 6 miles north and 16 miles south Juchitan, 3–5 July 1955 (U. Kansas Mex. Exped.); VERACRUZ: Cotaxtla, 29 June 1962 (D. H. Janzen).

ELYTROLEPTUS HUMERALIS Linsley

Known only from the type series from Chihuahua.

Elytroleptus similis Chemsak and Linsley, new species

MALE.—Form slender, elytra subparallel, slightly broadened apically; ground color yellowish-testaceous, head partially, pronotum partially, often some tibiae and femora and abdomen partially rufo-testaceous, head with black longitudinal bands extending full length across eyes to neck, neck often narrowly black, pronotum with center and sides dominantly black, underside usually black, antennae, tarsi, often some tibiae partially and some femora apically black; pubescence sparse. Head finely punctate, vertex between eyes clothed with golden appressed pubescence, long erect hairs sparse; antennae serrate from fifth segment, extending a little beyond middle of elytra, basal segments clothed with coarse suberect hairs, segments to seventh with a few suberect hairs on outside margin, distal segments densely clothed with very short appressed black pubescence, scape robust, a little longer than third segment, fourth shorter than third, fifth equal to scape, segments from sixth gradually decreasing in length, eleventh longer than tenth, appendiculate. Pronotum slightly broader than long, sides broadly rounded with an oval impression above the margin on each side; disk with two elevated, yellow appressed pubescent longitudinal ridges, center very coarsely, confluently punctate; lateral margins clothed with golden appressed pubescence, long, erect hairs more numerous at sides; prosternum feebly impressed, shining, sparsely clothed with long erect hairs; mesosternum shining, densely, shallowly punctate, sparsely pubescent; metasternum shining, glabrous and impunctate at middle, shallowly, moderately densely punctate toward edges, pubescence whitish, fine, erect, rather sparse; scutellum black, densely appressed pubescent. Elytra less than three times as long as broad, sides feebly dilated toward apex, tricostate, costae strong but not broad; punctures moderately coarse, subbasal punctures arranged in no more than four rows between costae, punctures finer at apex; pubescence fine, very short, subdepressed, basal area with longer erect hairs sparse; apices narrowly rounded. Legs slender, femora very sparsely punctate, sparsely pubescent, tibiae thinly clothed with suberect hairs no longer than width of tibiae. Abdomen shining, rather sparsely, very shallowly punctate, thinly clothed with pale suberect hairs; apex of last sternite broadly rounded, notched medially. Length, 8–11 mm.

FEMALE.—Antennae extending to about middle of elytra; abdomen with last sternite shallowly emarginate–truncate, a dense fringe of curved hairs present at apex. Length, 9–10 mm.

Holotype male (California Academy of Sciences) from 19 MILES NORTHWEST "CALCALOAPAN" (CACALOAPAN), PUEBLA, MEXICO, 23 July 1963 (W. A. Foster); allotype female from Tehuacan, Puebla, 23 June 1951 (H. E. Evans); paratypes as follows: 1 male, Tehuacan, Puebla, 23 June 1951 (H. E. Evans); 2 males, 10.2 miles west Puebla–Veracruz Boundary, Highway 150, 5 July 1962, on *Tecoma stans* (D. H. Janzen); one female, Tlacolula, Oaxaca, 5,249 feet, 16 July 1955 (P. and C. Vaurie).

E. similis falls in the species group which possesses unexpanded, tricostate elytra and appressed pronotal pubescent bands. It is closely related to *E. pallidus* but may be distinguished from that species by the more coarsely punctate elytra with the punctures being arranged in no more than four rows between the costae at the basal area.

Thus far, only forms with concolorous elytra are known.

ELYTROLEPTUS PALLIDUS PALLIDUS (Thomson)

New material has been studied from the following localities: DURANGO: Durango, 3 July 1964, 16 July 1964, 17 July 1964, 21 July 1964, 24 July 1964, 27 July 1964, on carrot flowers and flowers of zucchini squash (J. A. Chemsak, H. F. Howden, L. A. Kelton); 5 miles west Durango, 21–23 June 1964 (H. F. Howden); ZACATECAS: 32 miles northwest Fresnillo, 8–9 July 1964 (C. D. Johnson); HIDALGO: 4 miles west Pachuca, 7,900 feet, 16–17 June 1961, on flowers of *Schinus mole, Opuntia,* and at light (U. Kansas Mex. Exped.); 3 miles west Pachuca, 24 June 1954, on pepper tree (U. Kansas Mex. Exped.); Tulancingo, 6,750 feet, 14 June 1961 (U. Kansas Mex. Exped.); JALISCO: 6 miles west Chapala, 30 June 1963 (J. Doyen); MEXICO: 11 miles west Texcoco, 20 June 1962, on *Schinus mole* (D. H. Janzen); San Juan Teotihuacan, 13 July 1962 (A. E. Michelbacher); DISTRITO FEDERAL: Lomas de Chapultepec, 28 June 1932; PUEBLA: 10.2 miles west Puebla–Veracruz Boundary, Highway 150, 5 July 1962, on *Tecoma stans* (D. H. Janzen).

ELYTROLEPTUS PALLIDUS VILLOSUS Linsley

This densely pubescent subspecies primarily occurs in the State of Mexico. However, we have seen specimens from Morelia, Michoacan, 15 July 1956 (R. and K. Dreisbach).

ELYTROLEPTUS LUTEUS Dugés

This species is quite variable and may segregate into recognizably distinct populations in Mexico and in southwestern United States. New records from Mexico include: SONORA: Alamos, 9 August 1957 (R. L. Westcott); NAYARIT: 3 miles northwest Santa Maria del Oro, 27 June 1963 (J. Doyen); CHIHUAHUA: 25 miles west Hidalgo del Parral, 15 July 1964, on *Clematis pauciflora* (J. A. Chemsak); DURANGO: 18 miles west Durango, 7,200 feet, 31 July 1964 on *Buddleia cordata* (J. A. Chemsak); HONDURAS: Zomorano, 27 April to 5 May 1964 (G. A. Axtell).

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